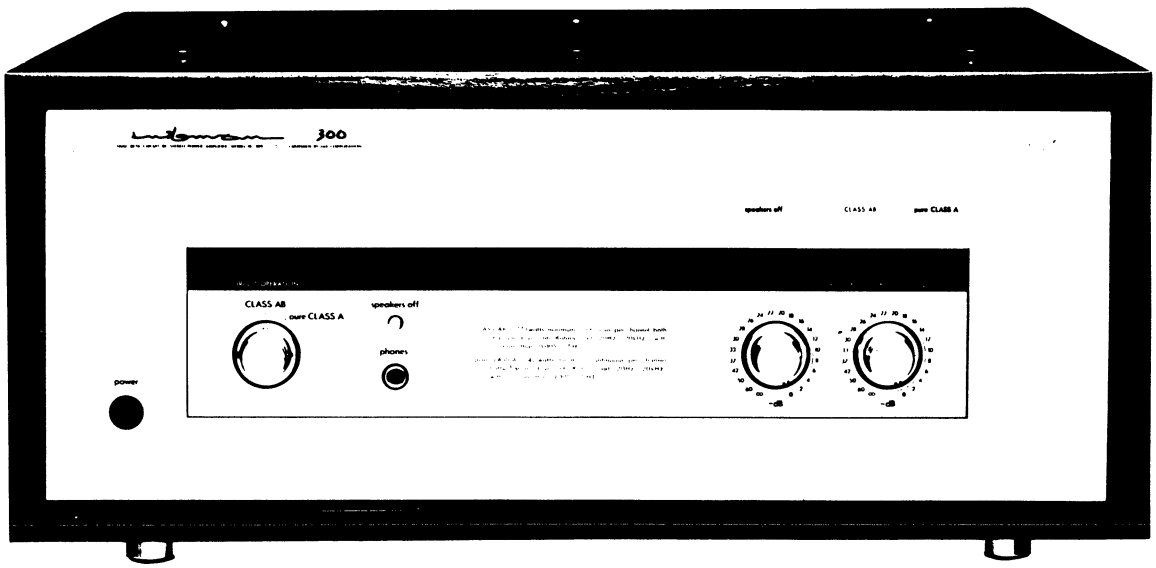
M-300

SERVICE MANUAL

DC STEREO POWER AMPLIFIER **M-300**



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REMARKS

1) The M-300 diversifies the original M-300 and M-300KA, whose difference exists in each regulator of the pre-driver stage, printed circuit board of the power stage and a part of the PB-1350.

Circuit	M-300	M-300KA
Regulator, Pre Driver	PB-1348	PB-1384
Power Stage	PB-1349	PB-1385
Capacitor Board	PB-1360	NON USE
Protector, Class Sel.	PB-1350	PB-1350

2) In this manual the parts, which differes depending on destination and mains voltage, are classified and indicated as follows:

J: 100V for Japan
A — AZ: 120V(With Lint Voltage Selector) for U.S.A., South Asia, East Asia
A — AK: 220V(With Line Voltage Selector) for Europe, South Asia, East Asia
A — AG: 240V(With Line Voltage Selector) for England, Australia

M-300 ALIGNMENT RROCEDURES

Note that adjustment of Regulator and Idling Current on the M-300 is different from that of M-300KA since each set-up value is different.

1) Alignment of Regulator

Setting Conditions - Volume Control: Minimum
Speaker Switch: ON
Class Selector Switch: Class AB

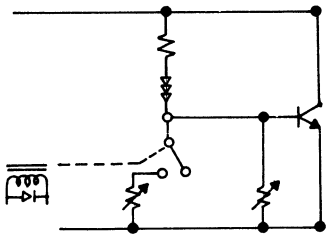
(1) Put on the Power Switch and adjust VR103(positive-going) and VR104 (negative-going) respectively to make these (+70V and -70V/M300, +61V and -61V/M300 KA) on the pattern shown in the (PB1348/M300, PB1384/M300 KA). (+Pattern: ▦ -Pattern: ▤)
Remarks: Both channels should be adjusted since the mains parts of the right and left channels are independent.

2) Alignment of Center Voltage (DC offsets)

(1) Connect a high sensitivity DC volt meter to the speaker terminals after alignment of the regulator.
(2) With setting VR101 and VR102 of the (PB-1348/M300, PB-1384/M300KA) at around the middle point, connect the cheking terminal, TP-2 to the "E" terminal.
(3) Put on the Speaker Switch.
(4) Adjust VR101 to make the DC volt meter connected to the speaker terminals 0V.
(5) Disconnect the TP-2 and the "E" terminal connected in the foregoing procedure (2) and adjust VR102 to make the DC volt meter 0V.
Remarks: This procedure should be done for both channels.

3) Alignment of Idling Current

(1) Put off the Speaker Switch.
(2) With turning VR201 and VR202 of the (PB1349/M300, PB1385/M300KA) counter-clockwise, connect a high sensitive DC volt meter to the idling checking terminals (┌─Ⓥ─┐).
(3) Adjust VR202 to make the volt meter connected to the idling checking terminals (19mV/M300, 17mV/M300KA).
(4) With switching over the Class Selector Switch to Class A position, adjust VR201 to make the volt meter connected to the ilding checking terminal (170mV/M300, 140mV/M300KA). Reconfirm and readjust of idling current on Class A and AB respectively 10 minutes after the Power Switch has been put on.
Remarks: This procedure should be done for both channels.
As shown in the circuit diagram here, the alignment on Class AB should be done at first since VR201 for Class A Io adjustment is put in parallel with VR202 for Class AB Io adjustment.



4) Alignment of Peak Indicator

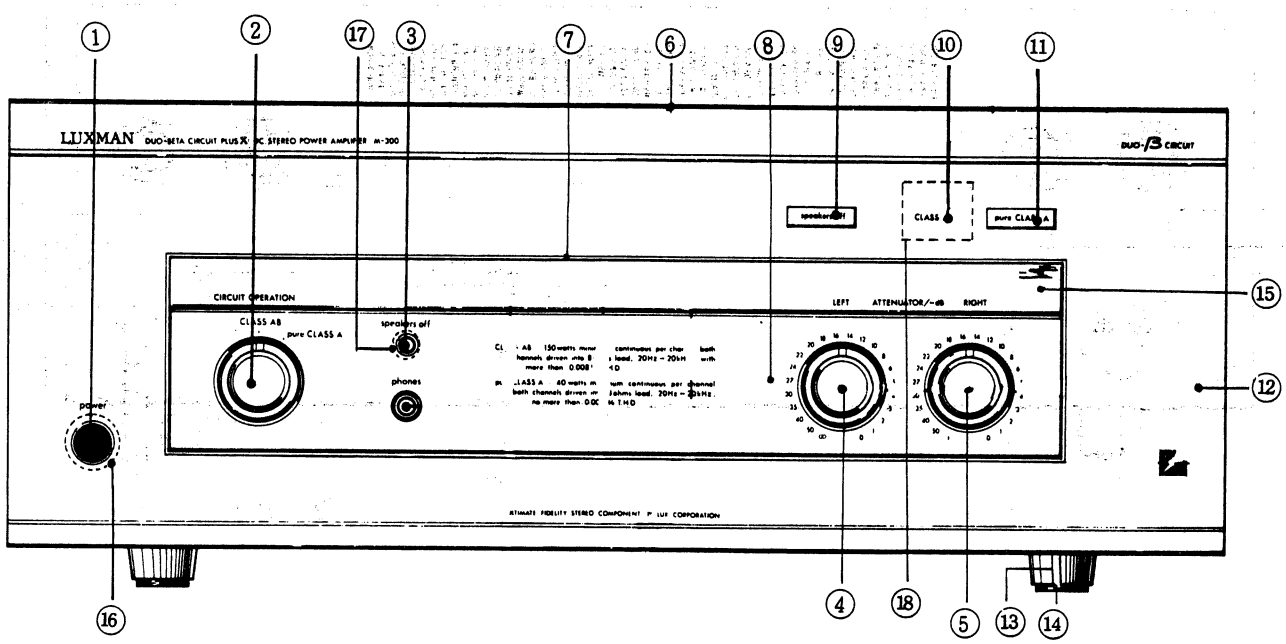
Setting Conditions - Volume Control: Maximum
Speaker Switch: OFF
Class Selector Switch Class A

(1) With connecting an 8-ohm non-inductive load to the speaker terminals and applying 1 kHz sine wave input by an audio Signal Generator to the input terminals, adjust output voltage of the audio Signal Generator to make output voltage of the speaker terminals 18.5V.
(2) Adjust VR401a.b.(L.R.) of the PB-1361 to put the peak indicators of left and right light up in red at 18.5V and in green at 18.3V.
(3) Confirm that the peak indicators light up in red at 36.9V output voltage with the Class Selector Switch at Class AB.

Remarks: Be careful not to break up all power transistors on both channels by short-circuiting between B-C or E-C with probes of a tester or a soldering iron when power transistors are replaced or checked since no resistors for discharge are incorporated in the B mains for the power supply and the capacitors are charged for a few hours after the Power Switch has been put off.

PARTS LIST (Cosmetic)

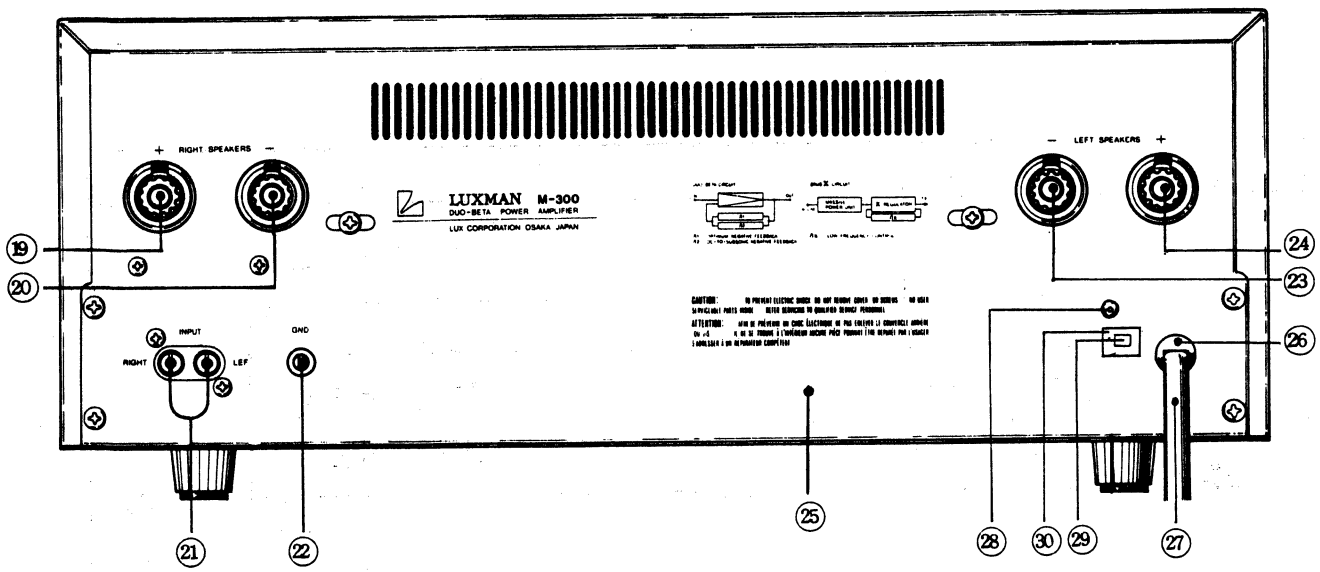
FRONT VIEW



SYMBOL NO.	STOCK NO.	DESCRIPTION	REMARK
(Knob)			
1	WJ1090	Power Switch	
*2	WH1123-1	Circuit,Operation	AZ.J
*2	WH1123-2	Circuit,Operation	AK.AG
*3	WJ1133-1	Speaker,Off	AZ.J
*3	WJ1133-2	Speaker,Off	AK.AG
*4	WJ1123-1	Volume Control,(L)	AZ.J
*4	WJ1123-2	Volume Control,(R)	AK.AG
*5	WJ1123-1	Volume Control,(L)	AZ.J
*5	WJ1123-2	Volume Control,(R)	AK.AG
(Indication, Foot)			
9	WR1011-2	Speaker,Off	
10	WR1011-1	Class AB	
11	WR1011-3	Class A	
13	WN1019	Foot, Felt 1019	
14	WN1022	Foot, Metal, 1022	

SYMBOL NO.	STOCK NO.	DESCRIPTION	REMARK
(Enclosures, Front panel)			
*6	WB1091	Wooden Case	AZ.J
*6	UG1031	Bonnet	AK.AG
*6	UE1111	Bottom Plate	AK.AG
7	WM1066	Dressing Plate	
*8	WA1224-1	Front Panel 1224	J
*8	WA1224-2	Front Panel 1224	A
*12	WA1222-1	Front Panel 1222	J
*12	WA1222-2	Front Panel 1222	A
15	WE1096	Acrylic Plate 1096	
(Protector)			
16	WE1051	Protector 1051	
17	WE1036	Protector 1036	
18	WZ1134	Shade Paper 1134	

REAR VIEW



SYMBOL NO.	STOCK NO.	DESCRIPTION	REMARK
(Terminal)			
19	AT5026B	Right Speaker,Red	
20	AT5026A	Right Speaker,Black	
21	AT0136	Input,2P	
22	AG0110	GND	
23	AT5026A	Left Speaker,Black	
24	AT5026B	Left Speaker,Red	
(Rear Panel)			
*25	UC1193-1	Rear Panel 1193-1	J
*25	UC1193-2	Rear Panel 1193-2	A

SYMBOL NO.	STOCK NO.	DESCRIPTION	REMARK
(Line Phase Senser) J only			
*28	AL0001	Neon Lamp	J
*29	UZ1245	L.P.S. Terminal	J
*30	UZ1244	L.P.S. Housing	J
(Bushing, Power Cord)			
*26	BU0080	Bushing SKN-4	J
*26	BU0033	Bushing SR-4N-4	AE.AZ
*26	BU0039	Bushing SR-4N-4	AC.
*27	BK0048	Power Cord VKF2.0MM	J
*27	BK0029	Power Cord 1337R	AE.
*27	BK0023	Power Cord SAAmini	AC.
*27	BK0019	Power Cord UP-720-001	AZ.

MECHANISM

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Potentiometer, Lamp)	
VR001ab	RV0273	50 K Ⓢ	
ST. BY	AL0063	12 V 75 MA (G140)	
ST. BY	AL0064	12 V 75 MA (R230)	
L-PEAK	AL0063	12 V 75 MA (G140)	
L-PEAK	AL0064	12 V 75 MA (R230)	
R-PEAK	AL0063	12 V 75 MA (G140)	
R-PEAK	AL0064	12 V 75 MA (R230)	
SP. OFF	AL0065	12 V 75 MA (B7-5)	
CLASS,A	AL0065	12 V 75 MA (B7-5)	
CLASS,AB	AL0065	12 V 75 MA (B7-5)	
		(Switch)	
SW001	SR0151	Rotary SRF 1042N, Class Selector	
SW002	SP5037	Push SUF12 2N2, Speaker off	
*SW003	SP0037	Push SDG5P001-10A, Power SW	
*SW003	SP0090	Push SWSDG5P502 , Power SW	
		(Power Transformer)	
*	PT2528	P-2528	J
*	PT2527	P-2527	A
		(Packing material)	
*	WZ1150	Pad 1150	AG.AK
*	WZ1168	Pad 1150	AZ. J
*	XA1280	Carton 1280	AG.Ak
*	XA1298	Carton 1298	AZ
*	XA1298J	Carton 1298J	J
*	XB1050	Tray Pad DC1050	AZ. J
*	XD1031	Shock Absobing Pad B1031	AG.Ak
*	XD1045	Shock Absobing Pad B1045	AZ. J
*	MA0138	Owner's manial	J
*	ME0195	Owner's manial	A

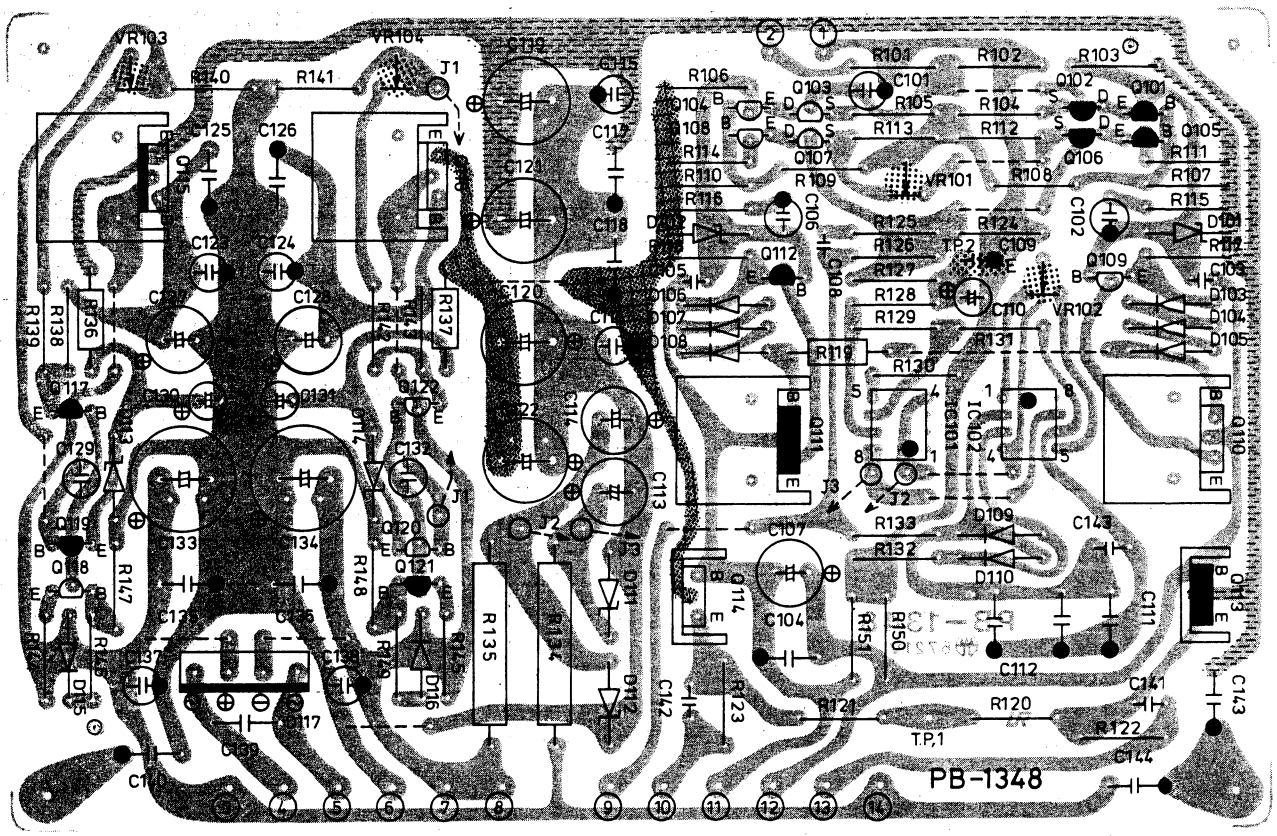
SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Resistor, Capacitor)	
R001ab	RD2121	43 KΩ 0.33 W RD	
R002	RG0031	6 Ω 20 W Rc	
R003	RG0031	6 Ω 20 W Rc	
*R004	RD0100	2.2 MΩ 0.5 W RD	J
C001	CK0159	0.1 μF 25 WV Ce	
C004ab	CE1911	12000 μF 80 WV El	
C005ab	CE1911	12000 μF 80 WV El	
*C006	CV007	0.01 μF 125 WV Lp	J
*C006	CU0040	0.01 μF 250 WV Lp	A
*C007	CU0007	0.01 μF 125 WV Lp	J
*C007	CU0040	0.01 μF 250 WV Lp	A
		(Line Voltage Selector, A Only)	
*	AC0013	Socket M-1625	A
*	AC0014	Plug P-2120	A
		(Transistor)	
Q206ab	TR0344	2SC-2921-0Y	
Q207ab	TR0343	2SA-1215-0Y	
Q208ab	TR0344	2SC-2921-0Y	
Q209ab	TR0343	2SA-1215-0Y	
Q210ab	TR0344	2SC-2921-0Y	
Q211ab	TR0343	2SA-1215-0Y	
		(Jack, Heatsink, Short Bar)	
Phones	AJ0014	Hone Jack LJ264-1-7	
	BE1081	Heatsink 1081	
	UZ1243	Short Bar 1243	

PARTS LIST ·····(P. C. B)

REMARKS

Capacitor: My...Mylar, El...Electrolytic, St...Styrol, Ce...Ceramic
Mi...Mica, Ta...Tantalum, Lp...Line pass(AC Cap.)
Tm...Trimmer, Ac...AC Capacitor, Fi...Film Cap.
Resistor: Rd...Carbon, Rc...Cement, Rm...Metal Film, Rf...Flame proof
Ro...Oxid Metal,
+5%,0.25W, unless specified otherwise.

PB-1348·····(Pre Driver,Requlator) M-300 only

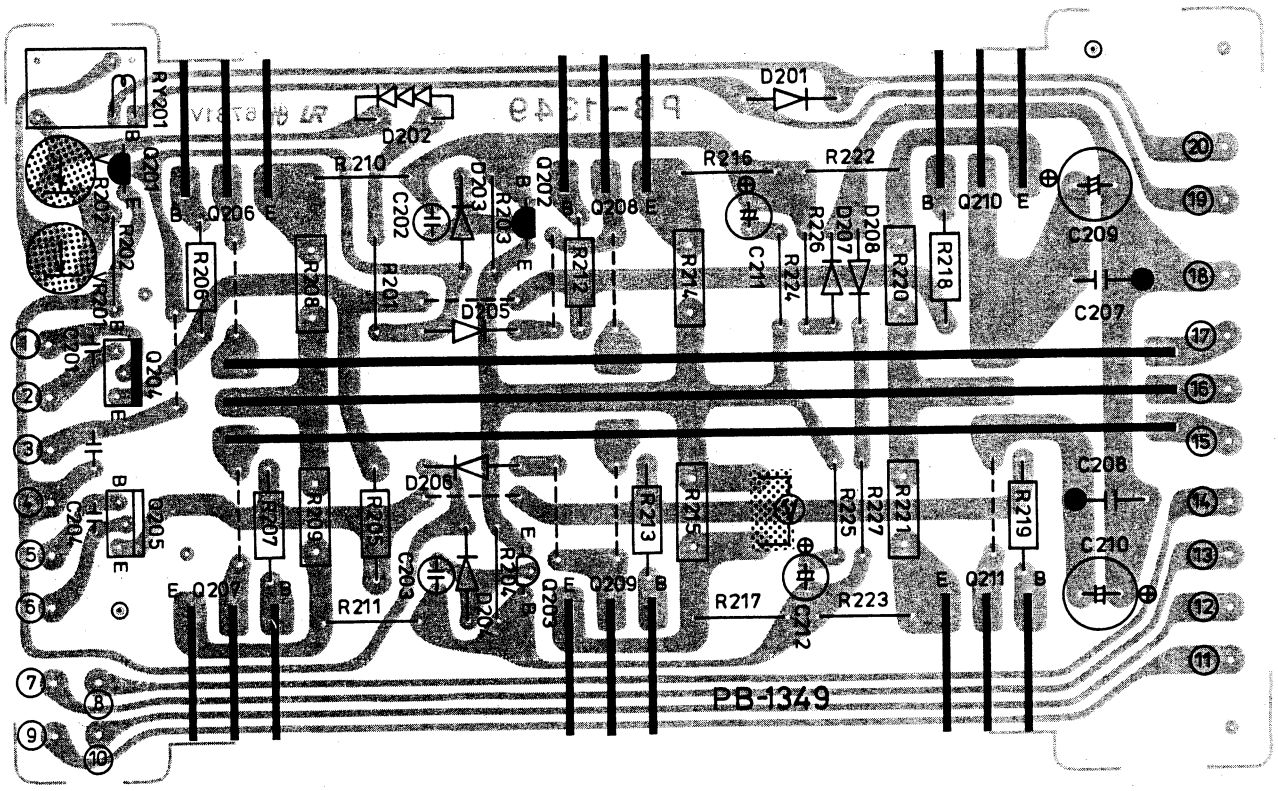


SYMBOL NO	STOCK NO	DESCRIPTION	REMARK	SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Capacitor)					
C101ab	CQ1218	120 PF 50 WV St		C124ab	CQ1552	560 PF 125 WV St	
C102ab	CQ1219	2200 PF 50 WV St		C125ab	CQ2006	0.47μF 125 WV Fi	
C103ab	CM0106	10 PF 500 WV Mi		C126ab	CQ2006	0.47μF 125 WV Fi	
C104ab	CQ2008	1 μF 125 WV Fi		C127ab	CQ2008	1 μF 125 WV Fi	
C105ab	CM0106	10 PF 500 WV Mi		C128ab	CQ2008	1 μF 125 WV Fi	
C106ab	CQ1219	2200 PF 50 WV St		C133ab	CE2011	100 μF 100 WV AR El	
C107ab	CE1954	470 μF 16 WV AR El		C134ab	CE2011	100 μF 100 WV AR El	
C108ab	CM0106	10 PF 500 WV Mi		C135ab	CQ2008	1 μF 125 WV Fi	
C112ab	CQ2010	2.2 μF 125 WV Fi		C136ab	CQ2008	1 μF 125 WV Fi	
C113ab	CE1952	220 μF 16 WV AR El		C137ab	CQ1552	560 PF 125 WV St	
C114ab	CE1952	220 μF 16 WV AR El		C138ab	CQ1552	560 PF 125 WV St	
C115ab	CQ1552	560 PF 125 WV St		C140ab	CQ2006	0.47 μF 125 WV Fi	
C116ab	CQ1552	560 PF 125 WV St		C143ab	CQ1201	560 PF 50 WV St	
C117ab	CQ2006	0.47 μF 125 WV Fi		C151ab	CQ1201	560 PF 50 WV St	
C118ab	CQ2006	0.47 μF 125 WV Fi		C152ab	CQ1201	560 PF 50 WV St	
C119ab	CE2011	100 μF 100 WV AR El		C153ab	CQ2006	0.47 μF 125 WV Fi	
C120ab	CE2011	100 μF 100 WV AR El		C154ab	CQ1201	560 PF 50 WV St	
C121ab	CE2011	100 μF 100 WV AR El		C155ab	CQ2006	0.47 μF 125 WV Fi	
C122ab	CE2011	100 μF 100 WV AR El		C156ab	CQ1200	100 PF 50 WV St	
C123ab	CQ1552	560 PF 125 WV St		C157ab	CQ0294	100 PF 125 WV St	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Resistor) Unit: Ω	
R101ab	RB0174	47 0.25 W RD	
R102ab	RD0430	1 M 0.33 W RD	
R103ab	RD0470	470 0.33 W RD	
R104ab	RD0482	47 0.33 W RD	
R105ab	RD0482	47 0.33 W RD	
R106ab	RD0470	470 0.33 W RD	
R107ab	RD0436	330 K 0.33 W RD	
R108ab	RD0448	33 K 0.33 W RD	
R109ab	RD0448	33 K 0.33 W RD	
R110ab	RD0436	330 K 0.33 W RD	
R111ab	RD0470	470 0.33 W RD	
R112ab	RD0478	101 0.33 W RD	
R113ab	RD0478	101 0.33 W RD	
R114ab	RD0470	470 0.33 W RD	
R115ab	RD0481	56 0.33 W RD	
R116ab	RD0481	56 0.33 W RD	
R117ab	RS1279	82 0.33 W Ro	
R118ab	RS1279	82 0.33 W Ro	
R119ab	RS5037L	56 K 1 W Ro	
R120ab	RS1286	180 0.33 W Ro	
R121ab	RS1286	180 0.33 W Ro	
R122ab	RS1281	100 0.33 W Rf	
R123ab	RS1281	100 0.33 W Rf	
R124ab	RD0470	470 0.33 W RD	
R125ab	RD0129	1.5 K 0.5 W RD	
		(Diode)	
D101ab	TD0044	WZ052 ZENER 5.2V	
D102ab	TD0044	WZ052 ZENER 5.2V	
D103ab	TD0053	1S-2473	
D104ab	TD0053	1S-2473	
D105ab	TD0053	1S-2473	
D106ab	TD0053	1S-2473	
D107ab	TD0053	1S-2473	
D108ab	TD0053	1S-2473	
D109ab	TD0053	1S-2473	
D110ab	TD0053	1S-2473	
D111ab	TD0079	WZ-140 ZENER 14V	
D112ab	TD0079	WZ-140 ZENER 14V	
D113ab	TD0044	WZ-052 ZENER 5.2V	
D114ab	TD0044	WZ-052 ZENER 5.2V	
D115ab	TD0053	1S-2473	
D116ab	TD0053	1S-2473	
D117ab	TD0215	UB-152	
		(Trimming Potentiometer)	
VR101ab	RT0102	220Ω (B)	
VR102ab	RT0049	10 K.Ω(B)	
VR103ab	RT0017	47 K.Ω(B)	
VR104ab	RT0017	47 K.Ω(B)	
		(PCB Board)	
	PC1348	PB-1348	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
R126ab	RD0112	18 K 0.5 W RD	
R127ab	RD0455	8.2 K 0.33 W RD	
R128ab	RD0451	18 K 0.33 W RD	
R129ab	RD0451	18 K 0.33 W RD	
R130ab	RD0457	5.6 K 0.33 W RD	
R131ab	RD0455	8.2 K 0.33 W RD	
R133ab	RD0430	1 M 0.33 W RD	
R134ab	RS5014L	4.7 K 3 W Ro	
R135ab	RS5014L	4.7 K 3 W Ro	
R136ab	RS5025L	10 K 1 W Ro	
R137ab	RS5025L	10 K 1 W Ro	
R138ab	RS1265	22 0.33 W Ro	
R140ab	RD0454	10 K 0.33 W RD	
R141ab	RD0454	10 K 0.33 W RD	
R143ab	RS1265	22 0.33 W Ro	
R144ab	RS1284	150 0.33 W Rf	
R145ab	RS1284	150 0.33 W Rf	
R146ab	RS1231	270 0.33 W Rf	
R147ab	RD0110	39 K 0.5 W RD	
R148ab	RD0110	39 K 0.5 W RD	
R149ab	RS1231	270 0.33 W Rf	
R152ab	RD0443	82 K 0.25 W RD	
R153ab	RD0443	82 K 0.25 W RD	
R154ab	RD0443	82 K 0.25 W RD	
R155ab	RD0443	82 K 0.25 W RD	
		(IC, FET, Transistor)	
IC101ab	TC0025	IC NJM4558DD	
IC102ab	TC0180	IC LF13741	
Q101ab	TR5004	2SC-2240	
Q102ab	TF0028	2SK-170-BL-PAIR	
Q103ab	TF0029	2SJ-74-BL-PAIR	
Q104ab	TR5005	2SA-970	
Q105ab	TR5004	2SC-2240	
Q106ab	TF0028	2SK-170-BL-PAIR	
Q107ab	TF0029	2SJ-74-BL-PAIR	
Q108ab	TR5005	2SA-970	
Q109ab	TR0332	2SA-857-V	
Q110ab	TR0342	2SA-899-BV	
Q111ab	TR0318	2SC-1904-BV	
Q112ab	TR0331	2SC-1438-V	
Q113ab	TR0318	2SC-1904-BV	
Q114ab	TR0342	2SA-899-BV	
Q115ab	TR0191	2SC-1625	
Q116ab	TR0189	2SA-815	
Q117ab	TR5004	2SC-2240	
Q118ab	TR5005	2SA-970	
Q119ab	TR5004	2SC-2240	
Q120ab	TR5005	2SA-970	
Q121ab	TR5004	2SC-2240	
Q122ab	TR5005	2SA-970	

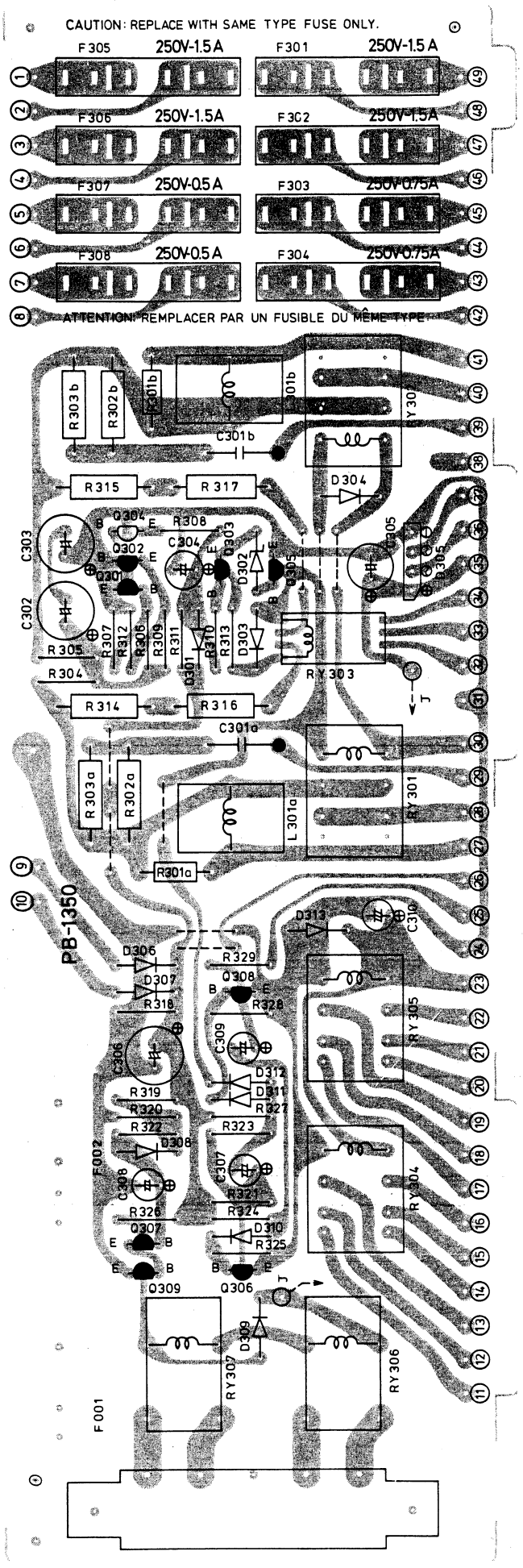
PB-1349·····(Power Amp) M-300 only



SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
	(Resistor) Unit:Ω		
R201ab	RD0468	680 0.25 W RD	
R202ab	RD0467	150 0.25 W RD	
R203ab	RD0139	100 0.5 W RD	
R204ab	RD0139	100 0.5 W RD	
R205ab	RS2717L	100 1 W Ro	
R206ab	RS2696L	4.7 1 W Ro	
R207ab	RS2696L	4.7 1 W Ro	
R208ab	RG0075	0.22 5 W Rc	
R209ab	RG0075	0.22 5 W Rc	
R210ab	RD0133	560 0.5 W RD	
R211ab	RD0133	560 0.5 W RD	
R212ab	RS2696L	4.7 1 W Ro	
	(Capacitor)		
C201ab	CM0125	47 PF 500 WV Mi	
C202ab	CQ0170	470 PF 50 WV St	
C203ab	CQ0170	470 PF 50 WV St	
C204ab	CM0125	47 PF 500 WV Mi	
C207ab	CQ2010	2.2 μF 125 WV Fi	
C208ab	CQ2010	2.2 μF 125 WV Fi	
C209ab	CE2003	22 μF 100 WV AR El	
C210ab	CE2003	22 μF 100 WV AR El	
	(Trimming Potentiometer)		
VR201ab	RT0020	330Ω (B)	
VR202ab	RT0020	330Ω (B)	
	(Relay)		
RY201ab	AY0042	BR211BB012-M (12V)	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
R213ab	RS296L	4.7 1 W Ro	
R214ab	RG0075	0.22 5 W Rc	
R215ab	RG0075	0.22 5 W Rc	
R216ab	RD0133	560 0.5 W RD	
R217ab	RD0133	560 0.5 W RD	
R218ab	RS2696L	4.7 1 W Ro	
R219ab	RS2696L	4.7 1 W Ro	
R220ab	RG0075	0.22 5 W Rc	
R221ab	RG0075	0.22 5 W Rc	
R222ab	RD0133	560 0.5 W RD	
R223ab	RD0133	560 0.5 W RD	
	(Diode)		
D201ab	TD0002	1N-4002	
D202ab	TV0020	STV-3H	
D203ab	TD0053	1S-2473	
D204ab	TD0053	1S-2473	
D205ab	TD5025	1S-2462	
D206ab	TD5025	1S-2462	
	(Transistor)		
Q201ab	TR5004	2SC-2240	
Q202ab	TR5004	2SC-2240	
Q203ab	TR5005	2SA-970	
Q204ab	TR0242	2SC-2336	
Q205ab	TR0241	2SA-1006	
	(PCB Board)		
	PC1349	PB-1349	

PB-1350·····(Protector, Class A.AB. Selector Relay)

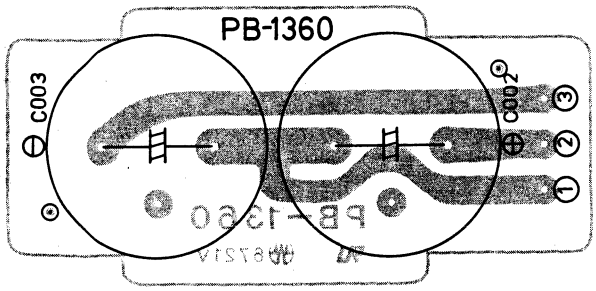


SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Fuse holder)	
* F001	AH0016	X-N1157	J
* F001	AH0019	X-N1153	A
* F002	AH0016	X-N1157	J
* F002	AH0019	X-N1153	A
* F301	AH0029	YSH-401T	J
* F301	AH0028	23165102-C	A
* F302	AH0029	YSH-401T	J
* F302	AH0028	23165102-C	A
* F303	AH0029	YSH-401T	J
* F303	AH0028	23165102-C	A
* F304	AH0029	YSH-401T	J
* F304	AH0028	23165102-C	A
* F305	AH0029	YSH-401T	J
* F305	AH0028	23165102-C	A
* F306	AH0029	YSH-401T	J
* F306	AH0028	23165102-C	A
* F307	AH0029	YSH-401T	J
* F307	AH0028	23165102-C	A
		(Fuse)	
* F001	BF0401	FGT40 125V-10A	J
* F001	BF0212	5X20 3.15A(T)	AK.AG
* F001	BF0215	5X20 6.3 A(T)	AZ
* F002	BF0401	FGT40 125V-10A	J
* F002	BF0212	5X20 3.15A(T)	AK.AG
* F002	BF0215	5X20 6.3 A(T)	AZ
* F301	BF0114	MF60NR-1.5A	J
* F301	BF0206	5X20 0.5 A(T)	A
* F302	BF0114	MF60NR-1.5A	J
* F302	BF-206	5X20 0.5 A(T)	A
* F303	BF0112	MF60NR-0.75A	J
* F303	BF0206	5X20 0.5A(T)	A
* F304	BF0112	MF60NR-0.75A	J
* F304	BF0206	5X20 0.5 A(T)	A
* F305	BF0114	MF60NR-1.5A	J
* F305	BF0206	5X20 0.5A(T)	A
* F306	BF0114	MF60NR-1.5A	J
* F306	BF0206	5X20 0.5A(T)	A
* F307	BF0111	MF60NR-0.5A	J
* F307	BF0206	5X20 0.5A(T)	A
* F308	BF0111	MF60NR-0.5A	J
* F308	BF0206	5X20 0.5A(T)	A
		(Diode)	
D301	TD0053	1S-2473	
D302	TD0023	WZ-071 ZENER 7.1V	M-300
	TD0044	WZ-052 ZENER 5.2V	M-300KA
D303	TD0002	1N-4002	
D304	TD0002	1N-4002	
D305	TD0139	SIV-B20	
D306	TD0002	1N-4002	
D307	TD0002	1N-4002	
D308	TD0053	1S-2473	
D309	TD0002	1N-4002	
D310	TD0053	1S-2473	
D311	TD0053	1S-2473	
D312	TD0018	1K-188FM-1	
D313	TD0002	1N-4002	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
(Resistor)		Unit: Ω	
R301ab	RS2709L	10 1 W. Ro	
R302ab	RS2569L	22 2 W. Ro	
R303ab	RS2569L	22 2 W. Ro	
R304	RD0447	39 K. 0.33 W. RD	
R305	RD0447	39 K. 0.33 W. RD	
R306	RD0458	47 K. 0.33 W. RD	
R307	RD0455	8.2 K. 0.33 W. RD	
R308	RD0475	180 0.33 W. RD	
R309	RD0450	22 K. 0.33 W. RD	
R310	RD0454	10 K. 0.33 W. RD	
R311	RD0443	82 K. 0.33 W. RD	
R312	RD0446	47 K. 0.33 W. RD	
R313	RD0459	3.9 K. 0.33 W. RD	
R314	RS2568L	220 2 W. RD	
(Capacitor)			
C301ab	CU0007	0.01uF 250 WV LP	
C302	CE1735	470 uF 25 WV El	
C303	CE1735	470 uF 25 WV El	
C304	CE1721	100 uF 16 WV El	M300
	CE1722	220 uF 16 WV El	M300KA
C305	CE1745	330 uF 35 WV El	
C306	CE1735	470 uF 25 WV El	
C307	CE1730	33 uF 25 WV El	
C308	CE1728	10 uF 25 WV El	
C309	CE1730	33 uF 25 WV El	
C310	CE1740	47 uF 50 WV El	
C311	CK0195	0.01uF 500 WV Ce	
C312	CK0195	0.01uF 500 WV Ce	
C313	CK0195	0.01uF 500 WV Ce	
C314	CK0195	0.01uF 500 WV Ce	
C315	CK0195	0.01uF 500 WV Ce	
C316	CK0195	0.01uF 500 WV Ce	
C317	CK0195	0.01uF 500 WV Ce	
C318	CK0195	0.01uF 500 WV Ce	
(Choke Coil)			
L301ab	LA9430	LUX-9430	

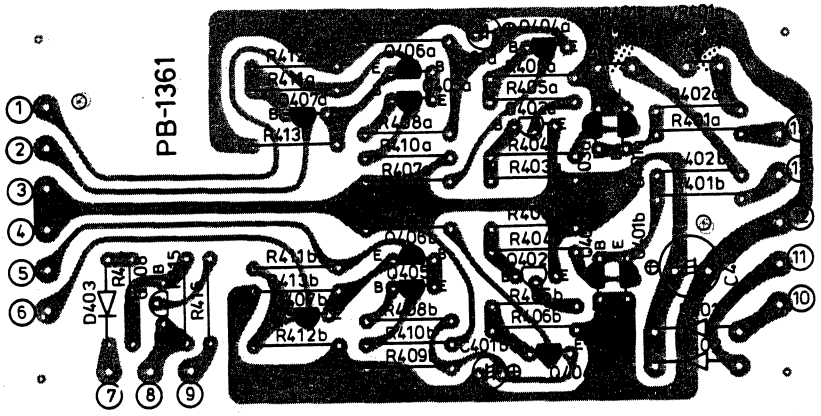
SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
R315	RS2568L	220 2 W. Ro	
R316	RS2568L	220 2 W. Ro	
R317	RS2568L	220 2 W. Ro	
R318	RD0119	3.3 K. 0.5 W. RD	
R319	RD0458	4.7 K. 0.33 W. RD	
R320	RD0464	1.5 K. 0.33 W. RD	
R321	RD0464	1.5 K. 0.33 W. RD	
R322	RD0442	100 K. 0.33 W. RD	
R323	RD0458	4.7 K. 0.33 W. RD	
R324	RD450	22 K. 0.33 W. RD	
R325	RD0430	1 M. 0.33 W. RD	
R326	RD0461	2.7 K. 0.33 W. RD	
R327	RD0451	18 K. 0.33 W. RD	
R328	RD0430	1 M. 0.33 W. RD	
(Transistor)			
Q301	TR0029	2SC-945	
Q302	TR0029	2SC-945	
Q303	TR0029	2SC-945	
Q304	TR0043	2SA-733	
Q305	TR0264	2SC-2235	
Q306	TR0029	2SC-945	
Q307	TR0029	2SC-945	
Q308	TR0264	2SC-2235	
Q309	TR0264	2SC-2235	
(Relay)			
RY301	AY1016	G2W-1112P-VDC 12V	
RY302	AY1016	G2W-1112P-VDC 12V	
RY303	AY0033	FRL-644 24V	
RY304	AY0022	MAT2B-CR 24V	
RY305	AY0022	MAT2B-CR 24V	
RY306	AY0022	MAT2B-CR 24V	
RY307	AY0022	MAT2B-CR 24V	
(PCB Board)			
	PC1350	PB-1350	

PB-1360……(Capactor Board) M-300 only



(Capacitor)			
C002ab	CE1913	2200 μF 100V El	
C003ab	CE1913	2200 μF 100V El	
(PCB Board)			
	PC1360	PB-1360	

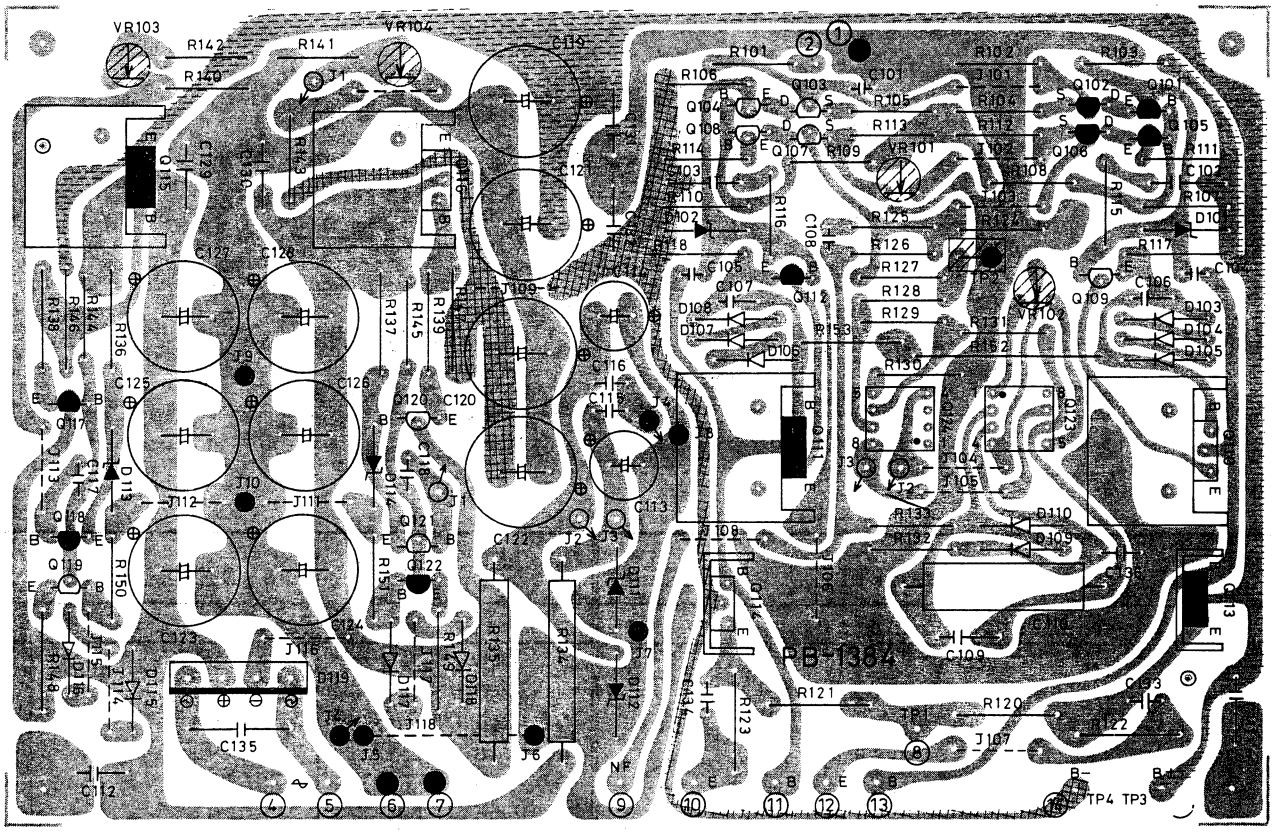
PB-1361 ·····(Peak Pilot)



SYMBOL NO	STOCK NO	DESCRPTION	REMARK
		(Resistor) Unit: Ω	
R401ab	RD0447	39 K. 0.25 W RD	
R402ab	RD0469	560 0.25 W RD	
R403ab	RD0450	22 K. 0.25 W RD	
R404ab	RD0467	820 0.25 W RD	
R405ab	RD0458	4.7 K. 0.25 W RD	
R406ab	RD0450	22 K. 0.25 W RD	
R407ab	RD0486	22 0.25 W RD	
R408ab	RD0442	100 K. 0.25 W RD	
R410ab	RD0458	4.7 K. 0.25 W RD	
R411ab	RD0458	4.7 K. 0.25 W RD	
R412ab	RD0450	22 K. 0.25 W RD	
R414	RD0458	4.7 K. 0.25 W RD	
R415	RD0450	22 K. 0.25 W RD	
		(Trimming Potentiometer)	
VR401ab	RT0014	470 Ω (B)	
		(PCB Board)	
	PC1361	PB-1361	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Transistor)	
Q401ab	TR0029	2SC-945	
Q402ab	TR0043	2SA-733	
Q403ab	TR0029	2SC-945	
Q404ab	TR0029	2SC-945	
Q405ab	TR0029	2SC-945	
Q406ab	TR0029	2SC-945	
Q407ab	TR0264	2SC-2235	
Q408	TR0043	2SA-733	
		(Diode)	
D401	TD0002	1N-4002	
D402	TD0002	1N-4002	
D403	TD0053	1S-2473	
		(Capacitor)	
C401ab	CE1749	47μF 50WV E1	
C402	CE1739	330μF 25WV E1	

PB-1384·····(Pre Driver,Regulator) M300KA only



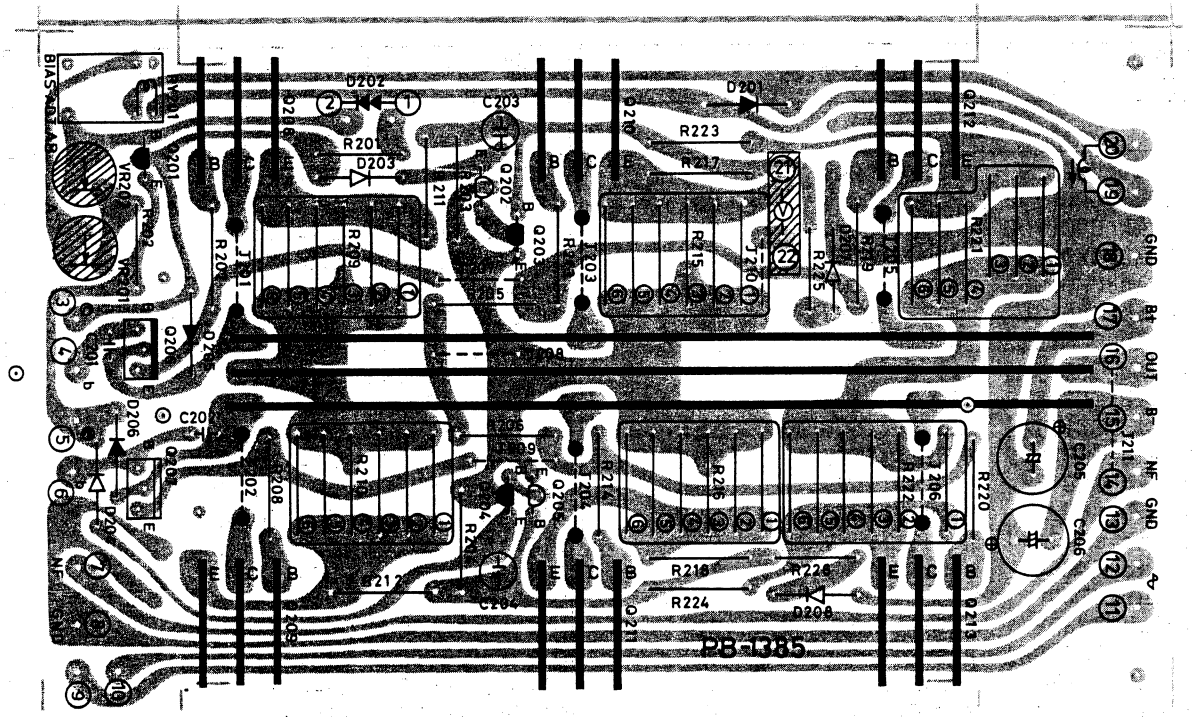
SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
	(Resistor)	Unit:Ω	
R101ab	RD0134	470 1/2W Rd	
R102ab	RD0430	1M 1/3W Rd	
R103ab	RD0470	470 1/3W Rd	
R104ab	RD0482	47 1/3W Rd	
R105ab	RD0482	47 1/3W Rd	
R106ab	RD0470	470 1/3W Rd	
R107ab	RD0436	330K 1/3W Rd	
R108ab	RD0448	33K 1/3W Rd	
R109ab	RD0448	33K 1/3W Rd	
R110ab	RD0436	330K 1/3W Rd	
R111ab	RD0482	47 1/3W Rd	
R112ab	RD0478	100 1/3W Rd	
R113ab	RD0478	100 1/3W Rd	
R114ab	RD0470	470 1/3W Rd	
R115ab	RD0481	56 1/3W Rd	
R116ab	RD0481	56 1/3W Rd	
R117ab	RS1451	82 1/3W Ro	* U
	RD0479	82 1/3W Rd	* J
R118ab	RS1451	82 1/3W Ro	* U
	RD0479	82 1/3W Rd	* J
R120ab	RS1459	180 1/3W Ro	* U
	RD0136	180 1/2W Rd	* J
R121ab	RS1459	180 1/3W Ro	* U
	RD0136	180 1/2W Rd	* J
R122ab	RS1453	100 1/3W Ro	* U
	RD0139	100 1/2W Rd	* J
R123ab	RS1453	100 1/3W Ro	* U
	RD0139	100 1/2W Rd	* J
R124ab	RB0174	470 1/4W Rd	
R125ab	RD0129	1.5K 1/2W Rd	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
R126ab	RD0112	18K 1/2W Rd	
R127ab	RD0445	56K 1/3W Rd	
R128ab	RD0451	18K 1/3W Rd	
R129ab	RD0447	39K 1/3W Rd	
R130ab	RD0457	5.6K 1/3W Rd	
R131ab	RD0455	8.2K 1/3W Rd	
R132ab	RD0430	1M 1/3W Rd	
R133ab	RD0430	1M 1/3W Rd	
R134ab	RS5014	4.7K 3 W Ro	
R135ab	RS5014	4.7K 3 W Ro	
R136ab	RD0356	27K 1/2W Rd	
R137ab	RD0356	27K 1/2W Rd	
R138ab	RS1437	22 1/3W Ro	* U
	RD0141	22 1/2W Ro	* J
R139ab	RS1437	22 1/3W Ro	* U
	RD0141	22 1/2W Ro	* J
R140ab	RD0112	18K 1/2W Rd	
R141ab	RD0112	18K 1/2W Rd	
R142ab	RD0106	100K 1/2W Rd	
R143ab	RD0106	100K 1/2W Rd	
R144ab	RD0433	560K 1/3W Rd	
R145ab	RD0433	560K 1/3W Rd	
R148ab	RS1457	150 1/3W Ro	* U
	RD0476	150 1/3W Rd	* J
R149ab	RS1457	150 1/3W Ro	* U
	RD0476	150 1/3W Rd	* J
R150ab	RD0259	47K 1/2W Rd	
R151ab	RD0259	47K 1/2W Rd	
R152ab	RD0356	27K 1/2W Rd	
R153ab	RD0356	27K 1/2W Rd	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Capacitor)	
C101ab	CM0169	120PF 100WV Mi	
C102ab	CM0170	1200PF 100WV Mi	
C103ab	CM0170	1200PF 100WV Mi	
C104ab	CM0106	10PF 500WV Mi	
C105ab	CM0106	10PF 500WV Mi	
C108ab	CM0106	10PF 500WV Mi	
C109ab	CM0168	560PF 100WV Mi	
C110ab	CE5050	2.2uF 50WV El	
C113ab	CE1952	220uF 16WV AR El	
C114ab	CE1952	220uF 16WV AR El	
C115ab	CM0163	330PF 100WV Mi	
C116ab	CM0163	330PF 100WV Mi	
C119ab	CE2011	100uF 100WV AR El	
C120ab	CE2011	100uF 100WV AR El	
C121ab	CE2011	100uF 100WV AR El	
C122ab	CE2011	100uF 100WV AR El	
C123ab	CE2011	100uF 100WV AR El	
C124ab	CE2011	100uF 100WV AR El	
C125ab	CE1782	220uF 100WV El	
C126ab	CE1782	220uF 100WV El	
C127ab	CE1782	220uF 100WV El	
C128ab	CE1782	220uF 100WV El	
C131ab	CK0185	2200PF 50WV Ce	
C132ab	CK0185	2200PF 50WV Ce	
		(Diode)	
D101ab	TD0044	WZ-052 ZENER 5.2V	
D102ab	TD0044	WZ-052 ZENER 5.2V	
D103ab	TD0053	1S-2473	
D104ab	TD0053	1S-2473	
D105ab	TD0053	1S-2473	
D106ab	TD0053	1S-2473	
D107ab	TD0053	1S-2473	
D108ab	TD0053	1S-2473	
D109ab	TD0053	1S-2473	
D110ab	TD0053	1S-2473	
D111ab	TD0079	WZ-140 ZENER 14V	
D112ab	TD0079	WZ-140 ZENER 14V	
D113ab	TD0024	WZ-081 ZENER 8.1V	
D114ab	TD0024	WZ-081 ZENER 8.1V	
D115ab	TD0053	1S-2473	
D116ab	TD0053	1S-2473	
D117ab	TD0053	1S-2473	
D118ab	TD0053	1S-2473	
D119ab	TD0215	UB-152	

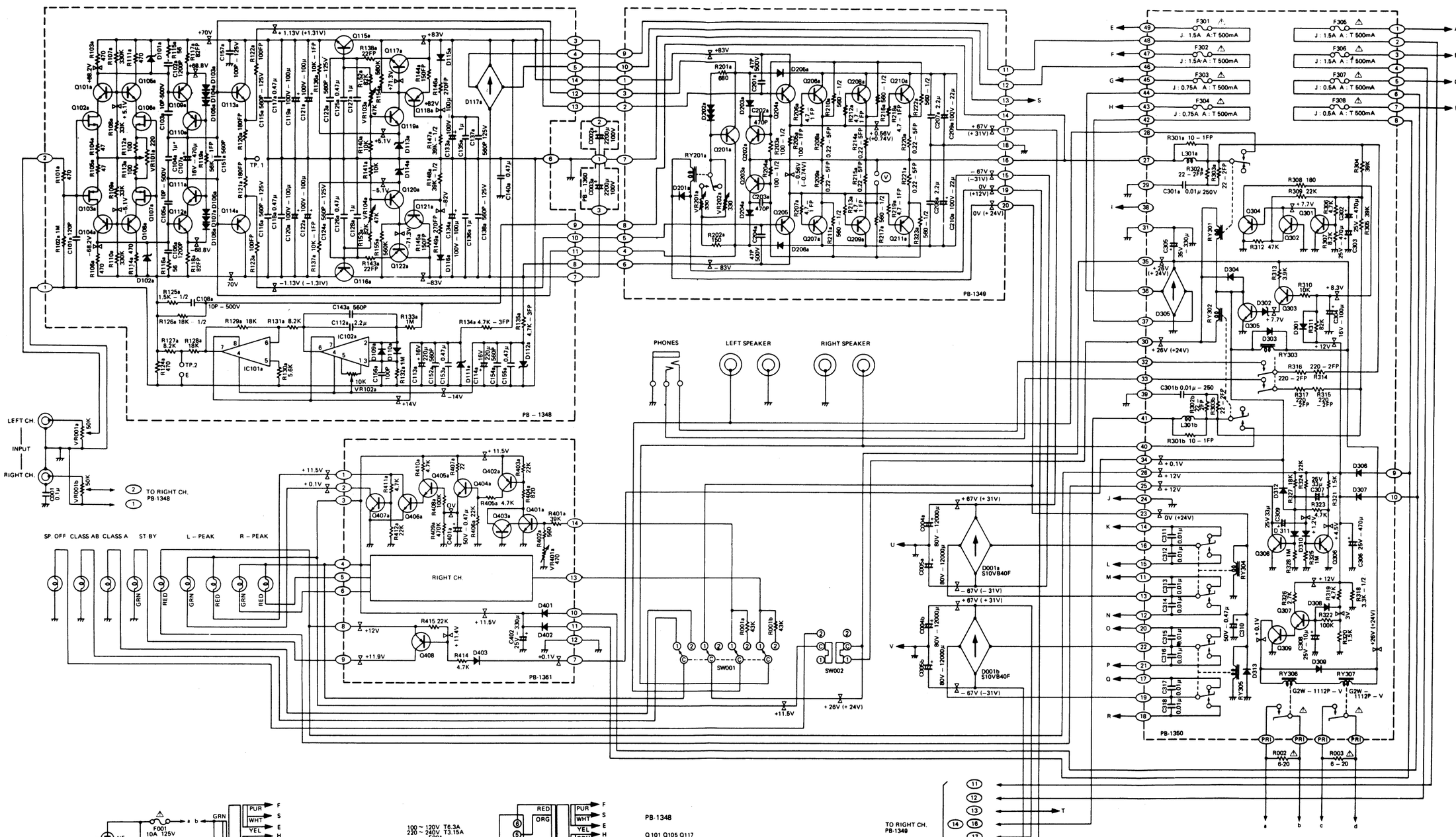
SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Transistor, FET, IC)	
Q101ab	TR5004	2SC-2240	
Q102ab	TF0028	2SK-170-BL-PAIR	
Q103ab	TF0029	2SJ- 74-BL-PAIR	
Q104ab	TR5005	2SA-970	
Q105ab	TR5004	2SC-2240	
Q106ab	TF0028	2SK-170-BL-PAIR	
Q107ab	TF0029	2SJ- 74-BL-PAIR	
Q108ab	TR5005	2SA-970	
Q109ab	TR0332	2SA-857-V	
Q110ab	TR0342	2SA-899-BV	
Q111ab	TR0318	2SC-1904-BV	
Q112ab	TR0331	2SC-1438-V	
Q113ab	TR0318	2SC-1904-BV	
Q114ab	TR0342	2SA- 899-BV	
Q115ab	TR0191	2SC-1625	
Q116ab	TR0189	2SA-815	
Q117ab	TR5004	2SC-2240	
Q118ab	TR5004	2SC-2240	
Q110ab	TR5005	2SA-970	
Q120ab	TR5005	2SA-970	
Q121ab	TR5005	2SA-970	
Q122ab	TR5004	2SC-2240	
Q123ab	TC0180	LF-13741	
Q124ab	TC0025	NJM-4558-DD	
		(Trimming Potentiometer) Unit:Ω	
VR101a	RT0102	220 B CR29R	
VR101b	RT0102	220 B CR29R	
VR102a	RT0049	10K B CR29R	
VR102b	RT0049	10K B CR29R	
VR103a	RT0017	47K B SR29R	
VR103b	RT0017	47K B SR29R	
VR104a	RT0017	47K B SR29R	
VR104b	RT0017	47K B SR29R	
		(PCB Board)	
	PC1348	PB-1384	

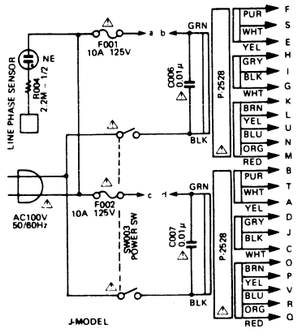
PB-1385·····(Power Amp)

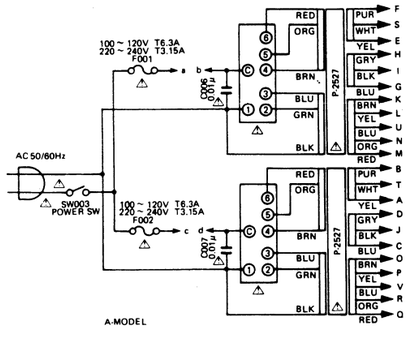


SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
		(Resistor) Unit:Ω	
R201ab	RD0468	680 1/4W Rd	
R202ab	RD0478	100 1/4W Rd	
R203ab	RD0138	120 1/2W Rd	
R204ab	RD0138	120 1/2W Rd	
R205ab	RS2508L	47 2 W Ro	* U
	RD0140	47 1/2W Rd	* J
R206ab	RS2508L	47 2 W Ro	* U
	RD0140	47 1/2W Rd	* J
R207ab	RS2564L	4.7 2 W Ro	* U
	RD1526	4.7 1/2W Rd	* J
R208ab	RS2564L	4.7 2 W Ro	* U
	RD1526	4.7 1/2W Rd	* J
R209ab	RG0075	0.22 5 W Rc	* U
	RD1512	1.2 1/2Wx6 Rd	* J
R210ab	RG0075	0.22 5 W Rc	* U
	RD1512	1.2 1/2Wx6 Rd	* J
R211ab	RD0133	560 1/2W Rd	
R212ab	RD0133	560 1/2W Rd	
R213ab	RS2564L	4.7 1/2W Ro	* U
	(Transistor)		
Q201ab	TR5004	2SC-2240	
Q202ab	TR5005	2SA-970	
Q203ab	TR5004	2SC-2240	
Q204ab	TR5004	2SC-2240	
Q205ab	TR5005	2SA-970	
Q206ab	TR5005	2SA-970	
	(Capacitor)		
C201ab	CM0125	47PF 500WV Mi	
C202ab	CM0125	47PF 500WV Mi	
C203ab	CQ1216	470PF 50WV St	
C204ab	CQ1216	470PF 50WV St	
C205ab	CE2003	22uF 100WV AR El	
C206ab	CE2003	22uF 100WV AR El	

SYMBOL NO	STOCK NO	DESCRIPTION	REMARK
R213ab	RD1526	4.7 1/2W Rd	* J
R214ab	RS2564L	4.7 1/2W Ro	* U
	RD1526	4.7 1/2W Rd	* J
R215ab	RG0075	0.22 5 W Rc	* U
	RD1512	1.2 1/2Wx6 Rd	* J
R216ab	RG0075	0.22 5 W Rc	* U
	RD1512	1.2 1/2Wx6 Rc	* J
R217ab	RD0133	560 1/2W Rd	
R218ab	RD0133	560 1/2W Rd	
R219ab	RS2564L	4.7 1/2W Ro	* U
	RD1526	4.7 1/2W Rd	* J
R220ab	RS2564L	4.7 1/2W Ro	* U
	RD1526	4.7 1/2W Rd	* J
R221ab	RG0075	0.22 5 W Rc	* U
	RD1512	1.2 1/2Wx6 Rd	* J
R222ab	RG0075	0.22 5 W Rc	* U
	RD1512	1.2 1/2Wx6 Rd	* J
R223ab	RD0133	560 1/2W Rd	
R224ab	RD0133	560 1/2W Rd	
	(Trimming Potentiometer, Diode)		
VR201a	RT0121	220 B CR19R	
VR201b	RT0121	220 B CR19R	
VR202a	RT0121	220 B CR19R	
VR202b	RT0121	220 B CR19R	
D201ab	TD0002	1N-4002	
D203ab	TR0053	1S-2473	
D204ab	TD0053	1S-2473	
D205ab	TD5025	1S-2462	
D206ab	TD5025	1S-2462	
	(Relay, PCB Board)		
RY201a	AY0042	BR211BB-012 12V	
RY201b	AY0042	BR211BB-012 12V	
	PC1385	PB-1385	







PB-1348

Q 101 Q105 Q117	
Q119 Q121	2SC2240
Q102 Q106	2SK170
Q103 Q107	2SJ74
Q104 Q108 Q118	
Q120 Q122	2SA970
Q109	2SA857
Q110 Q114	2SA899
Q111 Q113	2SC1904
Q112	2SC1438
Q115	2SC1625
Q116	2SA815
IC101	NJM4558DD
IC102	LF13741
D101 D102 D113	
D114	WZ-052
D103 ~ D110 D115	
D116	IS2473
D111 D112	WZ-140
D117	UB-152

PB-1349

Q201 Q202	2SC2240
Q203	2SA970
Q204	2SC2336
Q205	2SA1006
Q206 Q208 Q210	2SC2921
Q207 Q209 Q211	2SA1215
D201	IN4002
D202	STV-3H
D203 D204	IS2473
D205 D206	IS2462

PB-1350

Q301 Q302 Q303	
Q306 Q307	2SC945
Q304	2SA733
Q305 Q308 Q309	2SC2235

D301 D308 D310	
D311	IS2473
D302	WZ-071
D303 D304 D306	
D307 D309 D313	IN4002
D305	SIVB20
D312	IK188

PB-1361

Q 401 Q403 Q404	
Q405 Q406	2SC945
Q402 Q408	2SA735
Q407	2SC2235
D401 D402	IN4002
D403	IS2473

S W001: CIRCUIT OP SW
1 CLASS AB
2 CLASS A

SW002: SPEAKERS OFF SW
1 ON
2 OFF

VR001: ATTENUATOR
VR101: DC BALANCE ADJ.
VR102 DC OFFSET ADJ.
VR103 VOLTAGE ADJ. (PLUS)
VR104 VOLTAGE ADJ. (MINUS)
VR201: BIAS ADJ. (CLASS AB)
VR202: BIAS ADJ. (CLASS A)
VR401: PEAK LEVEL ADJ.

NOTE. 1) UNLESS OTHER SPECIFIED
ALL RESISTORS IN OHM 1/4 WATT,
ALL CAPACITORS ARE IN FARAD.
2) SPECIFIED VOLTAGE IN THE
PARENTHESES ( ) IS FOR THE
CLASS A OPERATION.

M-300

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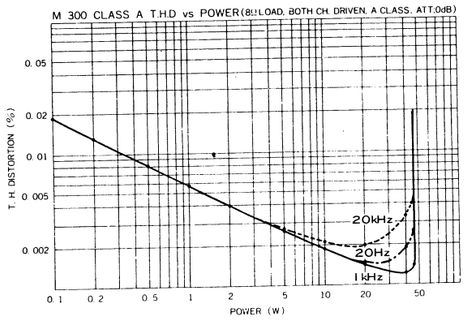
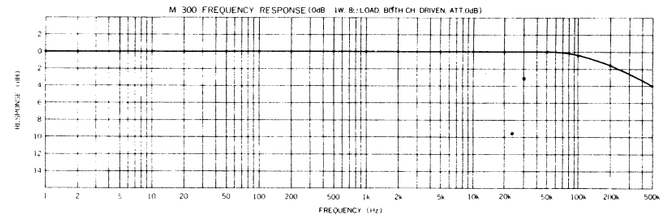
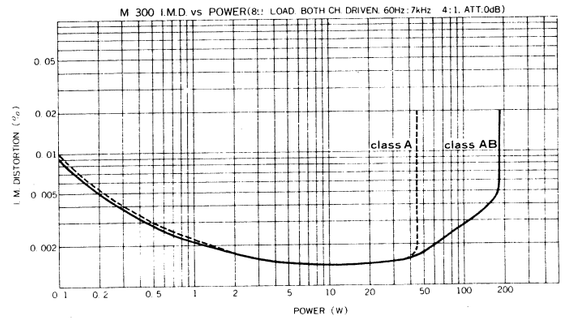
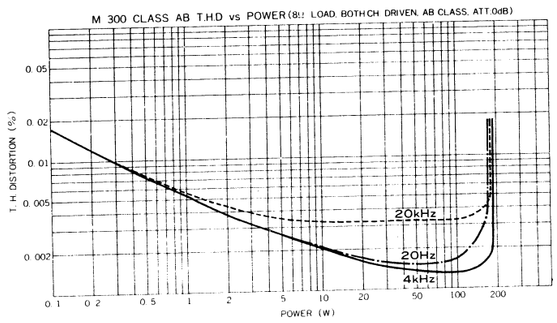
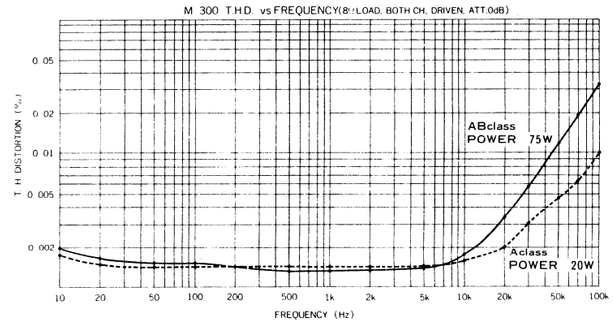
STANDARD CURVES



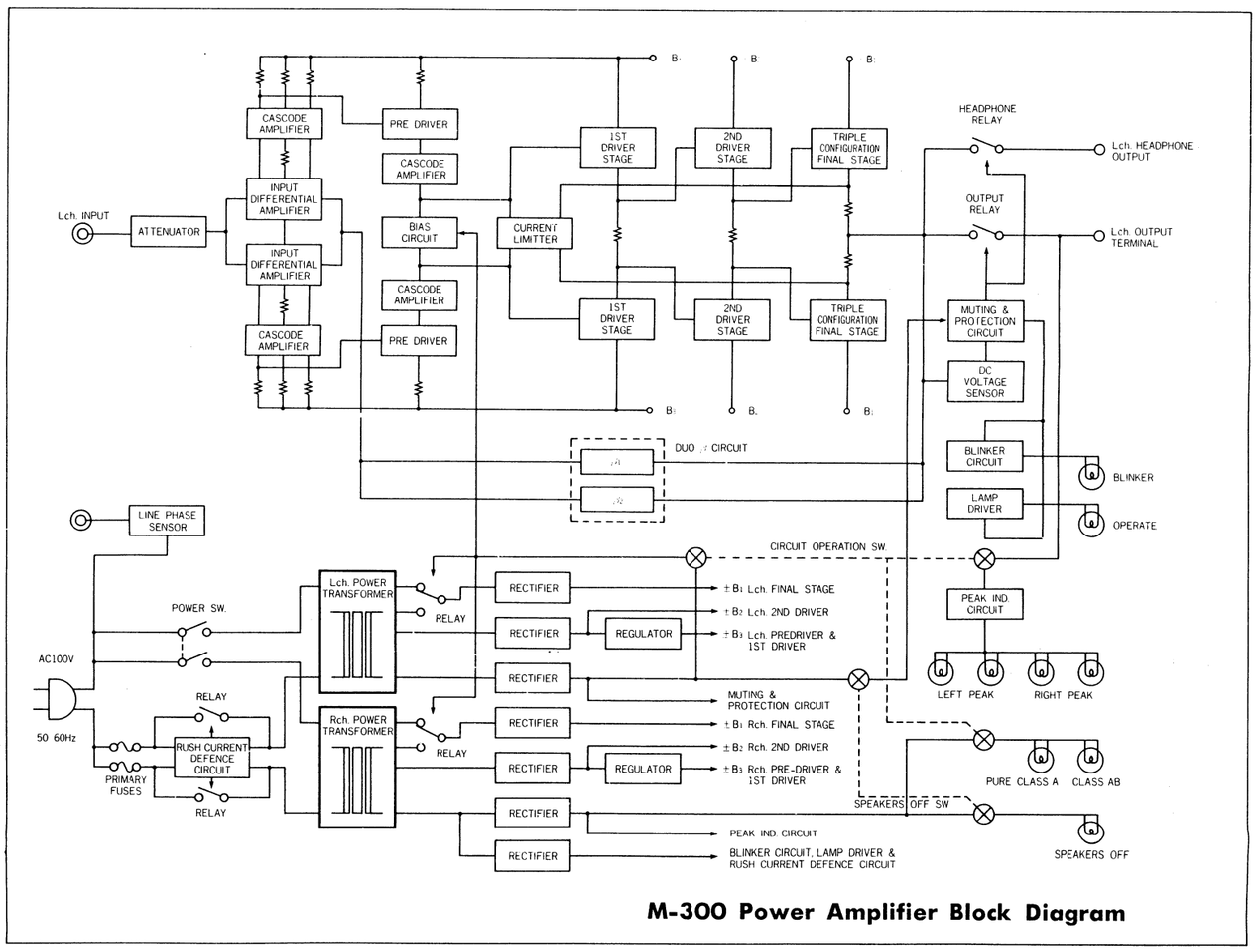




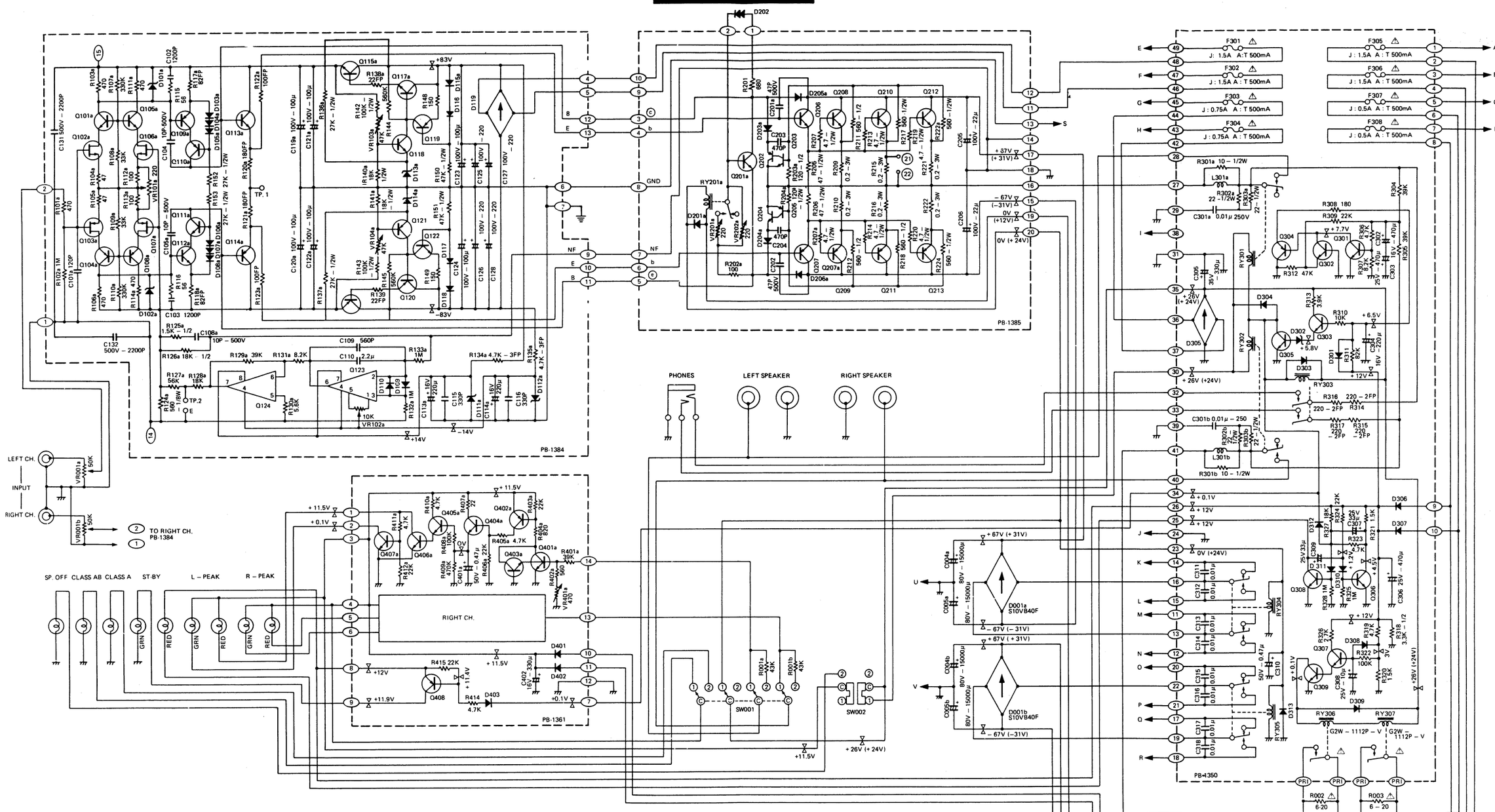


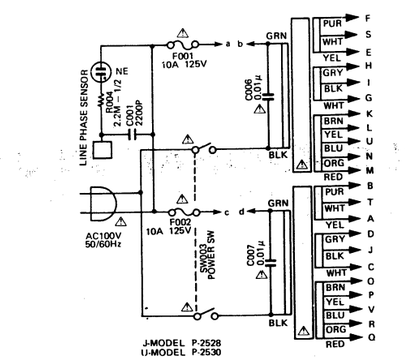


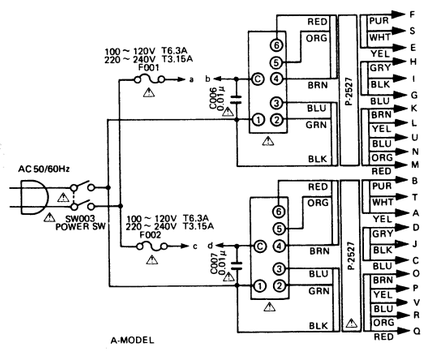
BLOCK DIAGRAM



M-300 Power Amplifier Block Diagram







PB-1384

Q101 Q105 Q117	
Q118 Q122	2SC2240
Q102 Q106	2SK170
Q103 Q107	2SJ74
Q104 Q108 Q119	
Q120 Q121	2SA970
Q109	2SA857
Q110 Q114	2SA899
Q111 Q113	2SC1904
Q112	2SC1438
Q115	2SC1625
Q116	2SA815
Q124	NJM4558DD
Q123	LF13741
D101 D102 D113	WZ-052
D113	WZ-081
D103 ~ D110	
D115 ~ D118	IS2473
D111 D112	WZ-140
D119	UB-152

PB-1385

Q201 Q202 Q204	2SC2240
Q202 Q205	2SA970
Q206	2SC2336
Q207	2SA1006
Q208 Q210 Q212	2SC2921
Q209 Q211 Q213	2SA1215
D201	IN4002
D202	STV-2H
D203 D204	IS2473
D205 D206	IS2462

PB-1350

Q301 Q302 Q303	
Q306 Q307	2SC945
Q304	2SA733
Q305 Q308 Q309	2SC2235

D301 D308 D310	
D311	IS2473
D302	WZ-052
D303 D304 D306	
D307 D309 D313	IN4002
D305	SIVB20
D312	IK188

PB-1361

Q 401 Q403 Q404	
Q405 Q406	2SC945
Q402 Q408	2SA735
Q407	2SC2235

D401 D402	IN4002
D403	IS2473

S W001: CIRCUIT OP.SW
1 CLASS AB
2 CLASS A

SW002: SPEAKERS OFF SW
1 ON
2 OFF

VR001: ATTENUATOR
VR101: DC BALANCE ADJ.
VR102: DC OFFSET ADJ.
VR103: VOLTAGE ADJ. (PLUS)
VR104: VOLTAGE ADJ. (MINUS)
VR201: BIAS ADJ. (CLASS AB)
VR202: BIAS ADJ. (CLASS A)
VR401: PEAK LEVEL ADJ.

NOTE 1) UNLESS OTHER SPECIFIED
ALL RESISTORS IN OHM 1/4 WATT,
ALL CAPACITORS ARE IN FARAD.
2) SPECIFIED VOLTAGE IN THE
PARENTHESES ( ) IS FOR THE
CLASS A OPERATION.

M-300KA

Printed in Japan

SPECIFICATIONS

Power Output:	Class A;	40 watts minimum continuous per channel both channels driven into 8 ohms load at any frequency from 20Hz to 20,000Hz with no more than 0.005% total harmonic distortion.
	Class AB;	150 watts minimum continuous per channel both channels driven into 8 ohms load at any frequency from 20Hz to 20,000Hz with no more than 0.008% total harmonic distortion.
Rated I.M.:	Class A;	no more than 0.005% (8 ohms, 60Hz : 7kHz = 4 : 1)
	Class AB;	no more than 0.008% (8 ohms, 60Hz : 7kHz = 4 : 1)
Slew Rate:	Class A;	180V/μsec.
	Class AB;	200V/μsec.
Rise Time:	0.6 μsec.	
Frequency Response:	10Hz – 100,000Hz (–1dB, Class A/Class AB)	
Input Sensitivity:	Class A;	450mV
	Class AB;	900mV
Input Impedance:	50k ohms (Class A/Class AB)	
Signal-to-Noise Ratio: (IHF-A wtd.)	Class A;	better than 115dB
	Class AB;	better than 120dB
Residual Noise:	30μV (Class A/Class AB)	
Damping Factor:	120 (1kHz, 8 ohms, ClassA/Class AB)	
Protection Circuit:	Speaker Protection by sensing DC-drift. Amplifier Protection by sensing excessive current.	
Power Consumption:	7A 120V	
Dimensions:	438(W) x 484(D) x 176(H) mm (17.5" x 19.4" x 7.0")	
Weight:	Net	30kgs (66.0 lbs.)
	Gross	32kgs (70.4 lbs.)

Specifications and appearance design subject to change without notice.

LUX CORPORATION, JAPAN

1-1, 1-CHOME, SHINSENRI-NISHIMACHI, TOYONAKA-SHI, OSAKA
PHONES: 06-834-0004 CABLE: LUXMAN TOYONAKA TELEX: J63694

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